

**REMARKS**

Reconsideration and allowance of this application, as amended, is respectfully requested.

This amendment is in response to the Office Action dated December 28, 2004. Appreciation is expressed to the Examiner for the allowance of claims 1-23, 38-46 and 51-55, as well as for the indication of allowable subject matter in claim 31.

It is noted that a Request for Clarification of Office Action was timely filed on January 24, 2005, and that no new Office Action has been forthcoming addressing the question raised in the Request for Clarification. A copy of this Request for Clarification of Office Action filed on January 24, 2005 is enclosed herewith in Appendix A for the Examiner's information, together with copies of a return receipt postcard stamped by OIPE on January 24, 2005 indicating the receipt of the Request for Clarification of Office Action. In the Request for Clarification, it was noted that claim 31 has been objected to as being dependent on a rejected base claim, and that it would be allowable if re-written into independent form. However, as also noted in the Request for Clarification, claim 31 is already in independent form. Therefore, it is not clear from the Office Action whether the objection to claim 31 was, in fact, intended for claim 31 or some other dependent claim. Therefore, applicants continue to request clarification with regard to the indication identifying claim 31 as a dependent claim in the Office Action.

It is noted that the present Amendment is based on the assumption that the identification of claim 31 as a dependent claim in the Office Action was, in fact, an inadvertent error. As such, it is assumed in this response that claim 31 is allowed

without the need for further amendments. If this is not, in fact, the case, clarification of this matter is respectfully requested.

It is further assumed that no Petition for Extension of Time is necessary in this matter to respond to the Office Action since the Office Action was, in effect, an incomplete Office Action for the reasons raised in the Request for Clarification of Office Action filed on January 24, 2005. In accordance with the provisions of MPEP §710.06:

"Where the citation of a reference is incorrect or an Office Action contains some other defect and this error is called to the attention of the Office within one (1) month of the mailing date of the Action, the Office will restart the previously set period for reply to run from the date the error is corrected, if requested to do so by applicant."

In the present instance, in the Request for Clarification, the applicant specifically requested the forwarding of a new Office Action with a resetting of the period for reply. Since no such new Office Action has been sent, it is respectfully submitted that the Office Action is still incomplete and, correspondingly, that the time period running in the Office Action should be reset without the need for an Extension of Time. Therefore, acceptance of this response, without the need for an Extension of Time, and the issuance of a new, non-final Office Action with clarification regarding claim 31 is respectfully requested.

Turning to the merits of the application, claim 30 has been amended to incorporate the subject matter of claim 37, as will be discussed below. It is assumed that claim 31 is allowable for the reasons set forth above. Claim 32 has been canceled inasmuch as it has been incorporated into new claims, as will also be discussed below. It is respectfully submitted that claims 33-36 are in condition for

allowance, for reasons discussed below. Claim 37 has been canceled (noting its incorporation into claim 30) and claim 47 depends on claim 30.

In addition to the above amendments to the rejected claims 32-37 and 47, it is noted that new claims 69-91 have been added as will be discussed below.

Turning first to the unamended independent claims 33, 34, 35 and 36, reconsideration and allowance of these claims over the copending U.S. application 10/465,550 to Moniwa is respectfully requested. With regard to these claims 33-36, it is noted that these claims particularly define features of the invention concerning the connection of the gates of the vertical MISFETs to gates or drains of the drive MISFETs. It is respectfully submitted that Moniwa fails to teach or suggest such a connection between the gates of the vertical MISFETs and the gates or drains of the drive MISFETs. To the contrary, the gates of the vertical MISFETs in Moniwa are electrically connected to the word line, as shown in Fig. 3. Therefore, Moniwa differs both structurally and operationally from claims 33-36 and reconsideration and allowance of these unamended claims is respectfully requested.

Turning to independent claim 30, as noted above, this claim has now been amended to incorporate the subject matter of its dependent claim 37 (noting that applicants reserve the right to proceed with the subject matter of claim 30, without this amendment, in another application in the future). By virtue of this amendment, a clear distinction over Moniwa is set out since Moniwa does not disclose an arrangement such as defined in claim 37 where the gate electrodes of the vertical MISFETs are formed with first and second films shaped in the form of sidewall spacers with the conductive film being opened in self-alignment with the first film and

the second film electrically connected to the corresponding conductive film. This arrangement can be seen, for example, with regard to the gate electrodes 64 and 65 shown, for example, in Figs. 2, 40 and 41 of the Application. As such, by virtue of this amendment to claim 30, and the resulting further distinctions of claim 30 over Moniwa based on this amendment, reconsideration and allowance of amended claim 30 and its dependent claim 47 over Moniwa is respectfully requested.

Reconsideration and allowance of newly presented claims 69-73 is also respectfully requested. These claims correspond, respectively, to claims 31, 33, 34, 35 and 36, each amended to incorporate the subject matter of claim 37. As noted above, the specific features of claim 37 with the first and second films is neither taught nor suggested by Moniwa, particularly when considered within the overall combinations of the subject matter of claims 31, 33, 34, 35 and 36 found in newly presented claims 69-70. Therefore, reconsideration and allowance of these claims is respectfully requested.

Reconsideration and allowance of new independent claims 74-79 is also respectfully requested. These claims correspond to claims 30, 31, 33, 34, 35 and 36, each amended to include the subject matter of claim 32. Claim 32 particularly defines the metal (or conductive) film including tungsten film, with the first and second MISFETs and the tungsten film being respectively electrically connected via a barrier film. Again, this feature is neither taught nor suggested in Moniwa. In particular, there is no teaching or suggestion with regard to using a barrier metal in Moniwa in the manner defined by these newly presented claims 74-79. Therefore, reconsideration and allowance of these claims is respectfully requested.

Reconsideration and allowance of newly presented claims 80-85 is also respectfully requested. These claims include features of the independent claims 31-36, together with the further features of first and second transfer MISFETs formed on the major surface in conjunction with the other claimed elements. Moniwa fails to teach or suggest any such combination of a drive MISFET, a transfer MISFET and a vertical MISFET, defined in each of the claims 80-85. Therefore, Moniwa differs structurally and operationally from the arrangements defined in claims 80-85. Therefore, reconsideration and allowance of these newly presented claims is respectfully requested.


Reconsideration and allowance of newly presented claims 86-91 is also respectfully requested. These claims are particularly directed to a memory cell arrangement such as shown in Fig. 16 (noting that reference to Fig. 16 is solely for purposes of example). As such, independent claim 86 defines a combination of first and second drive MISFETs, first and second transfer MISFETs and first and second load MISFETs. With regard to this, specific connections are defined in independent claim 86 and its dependent claims 87-91. It is noted that dependent claim 89 defines that the load MISFETs are vertical MISFETs (as does claim 91). As such, it is respectfully submitted that this overall combination of elements with drive MISFETs, transfer MISFETs and load MISFETs is neither taught nor suggested in Moniwa (or any of the other cited prior art). Therefore, reconsideration and allowance of these newly presented claims 86-91 is also respectfully requested.

It is respectfully requested that the Examiner contact the undersigned Attorney for an interview if, after reviewing these proposed amended claims, it is

determined that rejected subject matter still exists. Applicants and the undersigned Attorney greatly appreciate the Examiner's courtesy and cooperation in this regard.

Please charge any shortage in fees due in connection with the filing of this paper, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 501.42869X00).

Respectfully submitted,  
**ANTONELLI, TERRY, STOUT & KRAUS, LLP**

  
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S.N. 10/629,733  
GAU 2826

Dkt. 501.42869X00  
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## **APPENDIX A**



Patent Dkt. No. 501.42869X00 Attorney Initials GEM/dlt  
Application No. 10/611,862 Filing Date July 3, 2003  
Applicant(s) T. IWASAKI, et al.  
Papers Filed Herewith on January 24, 2005

Receipt is hereby acknowledged of the papers filed as indicated by the checked items in connection with the above-identified application:

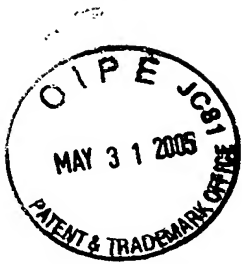
- |  |   |
|--|---|
| <input type="checkbox"/> New Application Transmittal Form    | <input type="checkbox"/> Credit Card Payment Form                               |
| <u>      </u> Pages of Specification ( <u>      </u> claims) | Fees \$ <u>          </u>   |
| <u>      </u> Sheets of Drawings                             | <input type="checkbox"/> Amendment  |
| <input type="checkbox"/> Declaration ( <u>      </u> pages)  | <input type="checkbox"/> Response to Office Action                              |
| <input type="checkbox"/> Fee Transmittal Form                | <input type="checkbox"/> Petition for Extension of Time ( <u>      </u> mos.)   |
| <input type="checkbox"/> Claim for Priority                  | <input type="checkbox"/> Information Disclosure Statement                       |
| <input type="checkbox"/> Priority Documents                  | <input type="checkbox"/> PTO-1449 <input type="checkbox"/> Copies of References |
| <input type="checkbox"/> Assignment Papers                   | <input type="checkbox"/> Revised Drawings ( <u>      </u> sheets)               |
| <input type="checkbox"/> Issue Fee Transmittal               | <input type="checkbox"/> Notice of Appeal                                       |

☒ Other Request for Clarification of Office Action



BEST AVAILABLE COPY





501.42869X00

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: T. IWASAKI, et al.

Application No.: 10/611,862

Filed: July 3, 2003

For: SEMICONDUCTOR DEVICE WITH MULTILAYER  
CONDUCTIVE STRUCTURE FORMED ON A  
SEMICONDUCTOR SUBSTRATE

Art Unit: 2813

Examiner: S. W. Smoot

**COPY**

**REQUEST FOR CLARIFICATION OF OFFICE ACTION**

Commissioner For Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

January 24, 2005

Sir:

Receipt is hereby acknowledged of an Office Action dated December 28, 2004. With regard to this Office Action, appreciation is expressed for the indication that claims 1-23, 38-46 and 51-55 are in condition for allowance. Appreciation is also expressed for the indication that claim 31 contains allowable subject matter. However, in the Office Action, it is stated that : "Claim 31 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten into independent form." Concerning this, from Applicants' review of this matter, it appears that claim 31 is already in independent form. Therefore, it is not clear from the Office Action as to whether the objection to claim 31 is improper, and that claim 31 is actually already in condition for allowance as an independent claim, or whether, alternatively, some claim other than claim 31 was intended. Therefore, clarification of this matter is respectfully requested by way of a new Office Action, together with


resetting the period for response corresponding to the mailing date of the new Office Action.

If the Examiner believes that there are any other points which may be clarified or otherwise disposed of either by telephone discussion or by personal interview, the Examiner is invited to contact Applicants' undersigned attorney at the number indicated below.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to the Antonelli, Terry, Stout & Kraus, LLP Deposit Account No. 01-2135 (Docket No. 501.42869X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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